

U.S.S.N. 10/604,454

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132000XZ (GEMS 0201 PA)

In the specification:

Please amend the specification as follows:

[0040] Referring now to Figure 3, a schematic view of the integrators 56 in accordance with an embodiment of the present invention is shown. Each data line 50 is electrically coupled to one of the integrators 56, which are included within the readout circuitry 30. Each integrator 56 includes an operational amplifier 70 having an inverting input 72, a non-inverting input 74 and an output 76. A feedback circuit 78 electrically couples the inverting input 72 to the output 76. The inverting input 72 is coupled to a data line ~~[[50'']]~~50'. The feedback circuit 78 may be capacitive or resistive in nature. The non-inverting input 74 is coupled to a second voltage source 80. The second voltage source 80 has a voltage potential V_2 and is coupled to ground 68. The non-inverting input 74 may be coupled to ground 68 or a source, such as source 80. Sources 66 and 80 are shown in Figures 2 and 3, to illustrate that the common contact 62 and the non-inverting input 74 are generally not at the same voltage level or at a true ground potential. The output 76 is coupled to digitize circuitry 82, which converts the exposed data in an analog format to a digital format for the acquisition processing circuit 34.

[0056] In step ~~[[138]]~~128, controller 36 powers ON the readout circuitry 30 and uses it to measure the data line drift as represented by the error signal resulting from the restoration of the data line potential. Because no x-rays have been generated, the data line drift or error signal is a representation of how much to change potential of the common contact 62 in order to adjust for the change in the data line when the readout circuitry 30 is powered OFF. Since there is only one common contact and many data lines, the error signal from at least a significant or substantial subset of the data lines is averaged to determine adjustment of the common contact 62.

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[0062] In step 134, the controller 36 due to system inactivity, a signal from an operator, or as part of a calibration powers OFF the readout circuitry 30, including amplifier 70, and adjusts voltage potential of the common contact 62 by an amount that the data line potential is expected to change when the readout circuitry 30 is powered OFF, as described above. In essence, the controller 36 powers OFF the readout circuitry 30 and adjusts the common contact potential when conditions for a power down of the readout circuitry ~~[[39]]~~30 have been met.